



Robert Greene Sterne  
Edward J. Kessler  
Jorge A. Goldstein  
David K.S. Cornwell  
Robert W. Esmond  
Tracy-Gene G. Durkin  
Michele A. Cimbala  
Michael B. Ray  
Michael E. Sokohl  
Eric K. Steffe  
Michael Q. Lee  
Steven R. Ludwig  
John M. Covert  
Linda E. Alcorn  
Robert C. Millonig  
Donald J. Featherstone  
Lawrence B. Bugaisky  
Michael V. Messinger  
Judith U. Kim

Timothy J. Shea, Jr.  
Patrick E. Garrett  
Jeffrey T. Helvey  
Heidi L. Kraus  
Albert L. Ferro  
Donald R. Banowitz  
Peter A. Jackman  
Teresa U. Medler  
Jeffrey S. Weaver  
Kendrick P. Patterson  
Vincent L. Capuano  
Eldora Ellison Floyd  
Thomas C. Fiala  
Brian J. Del Buono  
Virgil Lee Beaton  
Theodore A. Wood  
Elizabeth J. Haanes  
Joseph S. Ostroff  
Frank R. Cottingham

Christine M. Lhulier  
Rae Lynn P. Guest  
George S. Bardmesser  
Daniel A. Klein  
Jason D. Eisenberg  
Michael D. Specht  
Andrea J. Kamage  
Tracy L. Muller  
Jon E. Wright  
LuAnne M. DeSantis  
Ann E. Summerfield  
Aric W. Ledford  
Helene C. Carlson  
Cynthia M. Bouchez  
Timothy A. Doyle  
Gaby L. Longworth  
Lori A. Gordon  
Nicole D. Dretar  
Ted J. Ebersole

Jyoti C. Iyer  
Laura A. Vogel  
Michael J. Mancuso  
Bryan S. Wade  
Aaron L. Schwartz  
Matthew E. Kelley  
Nicole R. Kramer

**Registered Patent Agents\***  
Karen R. Markowicz  
Nancy J. Leith  
Matthew J. Dowd  
Aaron L. Schwartz  
Katrina Yujian Pei Quach  
Bryan L. Skelton  
Robert A. Schwartzman  
Teresa A. Colella  
Jeffrey S. Lundgren  
Victoria S. Rutherford

Michelle K. Holoubek  
Simon J. Elliott  
Julie A. Heider  
Mita Mukherjee  
Scott M. Woodhouse  
Michael G. Penn  
Christopher J. Walsh  
Peter A. Socarras

**Of Counsel**  
Kenneth C. Bass III  
Evan R. Smith  
Marvin C. Guthrie

\*Admitted only in Maryland  
\*Admitted only in Virginia  
\*Practice Limited to Federal Agencies

March 3, 2005

**WRITER'S DIRECT NUMBER:**  
(202) 772-8898  
**INTERNET ADDRESS:**  
NDRETAR@SKGF.COM

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**Art Unit 2663**

Re: U.S. Utility Patent Application  
Application No. 09/714,713; Filed: November 16, 2000  
For: **Data Packet Fragmentation In A Cable Modem System**  
Inventors: Quigley *et al.*  
Our Ref: 1875.132000H

Sir:

Transmitted herewith for appropriate action are the following documents:

1. Credit Card Payment Form (PTO-2038) in the amount of \$180.00 to cover the Information Disclosure Statement submission fee;
2. Fee Transmittal Form;
3. Fourth Supplemental Information Disclosure Statement;
4. Form PTO-1449 listing thirteen (13) documents and accompanied by one (1) document (no. AT1); and
5. One return postcard.

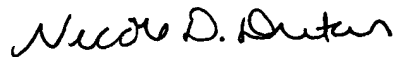
It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Commissioner for Patents  
March 3, 2005  
Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

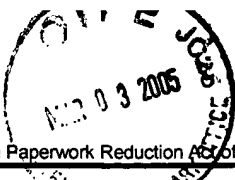
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Nicole D. Dretar  
Attorney for Applicants  
Registration No. 54,076

NDD/sjc  
Enclosures

344767\_1.DOC



Equivalent to Form  
PTO/SB/17 (12-04)

Approved for use through 07/31/2006.

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

Effective on 12/08/2004.  
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

# FEE TRANSMITTAL

## For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 180.00

### Complete if Known

Application Number 09/714,713  
Filing Date November 16, 2000  
First Named Inventor Thomas J. QUIGLEY  
Examiner Name Chi Ho A. Lee  
Art Unit 2663  
Attorney Docket No. 1875.132000H

### METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify):  
☒ Deposit Account Deposit Account Number: 19-0036 Deposit Account Name: Sterne Kessler Goldstein & Fox PLLC

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee  
☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

### FEE CALCULATION

#### 1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

#### 2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

**Total Claims** - 20 or HP =          x          =          **Fee Paid (\$)**  
HP = highest number of total claims paid for, if greater than 20  
**Indep. Claims** - 3 or HP =          x          =          **Fee Paid (\$)**  
HP = highest number of independent claims paid for, if greater than 3

#### 3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

**Total Sheets** - 100 =          / 50 =          (round up to a whole number) x          =          **Fee Paid (\$)**

#### 4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

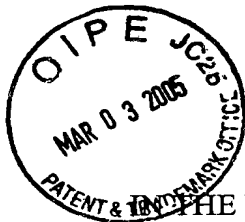
Other: Information Disclosure Statement Submission Fee \$180.00

#### SUBMITTED BY

Signature Nicole D. Dretar Registration No. (Attorney/Agent) 54,076 Telephone (202) 371-2600  
Name (Print/Type) Nicole D. Dretar Date 03-03-2005

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

QUIGLEY *et al.*

Appl. No.: 09/714,713

Filed: November 16, 2000

For: **Data Packet Fragmentation in a  
Cable Modem System**

Confirmation No.: 4389

Art Unit: 2663

Examiner: Lee, Chi Ho A.

Atty. Docket: 1875.132000H

### **Fourth Supplemental Information Disclosure Statement**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- ☐ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement.
- ☐ 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed within three months of the date of filing of a national application other than a continued prosecution application (CPA), OR within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, OR before the mailing date of a first Office Action on the merits OR before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No statement or fee is required.
- ☒ 3. Filing under 37 C.F.R. § 1.97(c). This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application.

- ☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
- ☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- ☒ c. Attached is our PTO-2038 Credit Card Payment Form in the amount of \$180.00 in payment of the fee under 37 C.F.R. § 1.17(p).
- ☐ 4. Filing under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Enclosed find our PTO-2038 Credit Card Payment Form in the amount of \$\_\_\_\_\_ in payment of the fee under 37 C.F.R. § 1.17(p); in addition:
- ☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was

cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

- ☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

- ☐ 5. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.

- ☐ 6. A concise explanation of the relevance of the non-English language document(s) appears below:

- ☒ 7. In accordance with 37 C.F.R. 1.98(a)(2), copies of 'U.S. Patent Documents' cited on the attached Form PTO-1449 (documents AA1-AJ1) are not enclosed.

- ☒ 8. A copy of document AR1 (including Exhibits 1-5) was submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. 09/430,821, filed October 29, 1999, which is relied upon for an earlier filing date under 35 U.S.C. §120. A copy of document AS1 (including Exhibits 1-3)

was submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. 09/574,558, filed May 19, 2000, now U.S. Patent No. 6,650,624, which is relied upon for an earlier filing date under 35 U.S.C. §120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

- ☒ 9. A copy of document AT1 is submitted herewith.
- ☒ 10. It is expected that the examiner will review the prosecution and cited art in the parent application no(s). 09/574,558, filed May 19, 2000, now U.S. Patent No. 6,650,624, and 09/430,821, filed October 29, 1999, in accordance with MPEP 2001.06(b), and indicate in the next communication from the office that the art cited in the earlier prosecution history has been reviewed in connection with the present application.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

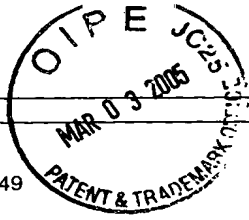


Nicole D. Dretar  
Attorney for Applicants  
Registration No. 54,076

Date: 03-03-2005

1100 New York Avenue, N.W.  
Washington, D.C. 20005-3934  
(202) 371-2600





FORM PTO-1449

## INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.  
1875.132000HAPPLICATION NO.  
09/714,713FIRST NAMED INVENTOR  
QUIGLEY et al.FILING DATE  
November 16, 2000ART UNIT  
2663

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA1	5,943,604	08/1999	Chen et al.			
	AB1	6,005,854	12/1999	Xu et al.			
	AC1	6,032,019	02/2000	Chen et al.			
	AD1	6,108,713	08/2000	Sambamurthy et al.			
	AE1	6,137,793	10/2000	Gorman et al.			
	AF1	6,298,098	10/2001	Krasner et al.			
	AG1	6,353,604	03/2002	Grimwood et al.			
	AH1	6,647,069	11/2003	Segal et al.			
	AI1	6,647,070	11/2003	Shalvi et al.			
	AJ1	6,650,698	11/2003	Liau et al.			
	AK1						

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL1						Yes No
	AM1						Yes No
	AN1						Yes No
	AO1						Yes No
	AP1						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	1	Declaration of Lisa V. Denney, dated March 22, 2004, (8 pages) with Exhibits 1-5.
	AS	1	Declaration of Lisa V. Denney, dated August 14, 2002, (8 pages) with Exhibits 1-3.
	AT	1	Franks, Lewis E., "Evaluation of the Effects of Notch Filters on Digital Data Transmission," <i>IEEE Transactions on Communication Technology</i> , pp. 447-449 (August 1970).

EXAMINER

DATE CONSIDERED

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.